

CALATHEA GORDONII (MARANTACEAE), A NEW ENDEMIC
PANAMANIAN SPECIES

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ABSTRACT

Calathea gordonii H. Kenn., sp. nov., endemic to Panama, is described as new for inclusion in the Flora Mesoamericana. It occurs in both Bocas del Toro and Colón Provinces. *Calathea gordonii* is characterized by the single elliptic leaf per shoot; the single inflorescence per shoot, borne either on a separate, leafless, shoot or on the leafy shoot; the densely appressed tomentose bracts and peduncle; the two membranous, medial, bracteoles and the white flowers. It differs from *Calathea basiflora* H. Kenn. by the elliptic vs. obovate leaf, the firm, coriaceous, densely tomentose vs. thin, herbaceous, pilose bracts and the two medial bracteoles membranous vs. clavicate. It differs from *C. verecunda* H. Kenn. by the broader leaf blades (14.3–22.4 vs. 4–8 cm) and the bracts with rounded to obtuse vs. acute to acuminate apices and from *C. rhizanthoides* H. Kenn. by the generally longer leaves (23.6–41 vs. 17–30 cm), broader angle of divergence of lateral veins from the midrib (41°–46° vs. 28°–39°) and medial bracteoles membranous vs. clavicate.

RESUMEN

Calathea gordonii H. Kenn., sp. nov., endémica de Panamá, es descrita como nueva para inclusión en Flora Mesoamericana. Ella ocurre en las Provincias de Bocas del Toro y de Colón. *Calathea gordonii* se caracteriza por tener solo una hoja elíptica por brote; solo una inflorescencia por brote, en un brote aparte sin hojas o en el brote con la hoja; las brácteas y el pedúnculo densamente tomentosos; las dos bractéolas mediales que son membranáceas y la flor blanca. Se diferencia de *C. verecunda* H. Kenn. por sus láminas foliares más anchas (14.3–22.4 vs. 4–8 cm) y las brácteas con el ápice rotundo u obtuso vs. agudo o acuminado y de *C. rhizanthoides* H. Kenn. por sus láminas foliares generalmente más largas (23.6–41 vs. 17–30 cm), por el ángulo de divergencia de las venas laterales del nervio medio más ancho (41°–46° vs. 28°–39°) y las bractéolas mediales membranáceas vs. claviculadas.

In preparation for the Flora Mesoamericana treatment, the species of Marantaceae from Panama has been a special focus. Additional herbarium studies at the Missouri Botanical Garden and the University of Panama plus more recent collecting in the area of the concession Minera Panamá, Colón Prov., have uncovered additional new species. Since the publication of the Woodson and Schery (1945) treatment for Flora of Panama, listing 23 species, the total has significantly increased. By 1972, Dressler (1972:184) reported a total of 35 species for Panama while four years later, Kennedy (1976:312–313) reported an increase to 49 known species and suggested a possible further increase to 60 or 70. More recently, Kennedy (2011:201) reported a total of 59 species whereas, currently, 68 species are recognized (a 195 per cent increase from the original Flora of Panama treatment). Nineteen species are recognized as endemic, including the one described herein plus one as yet undescribed taxa. Additional collecting, especially in adjacent Colombia, most probably will reduce the number of endemics.

TAXONOMIC TREATMENT

Calathea gordonii H. Kenn., sp. nov. (Figs. 1, 2). TYPE: PANAMÁ. COLÓN: Distr. de Donoso, Área de concesión Minera Panamá, Coastal Road, 8.5 km, bosque secundario tardío dominado por palmas, 61 m, 8°56'40.94"N, 80°41'38.95"W (UTM 0533622 E, 0988753 N), 16 Nov 2013, R. Flores 3512 (HOLOTYPE: PMA!; ISOTYPES: MO!, UCR!).

Haec species a *Calathea basiflora* H. Kenn. foliis ellipticis (vs. obovatis), bracteis crassiusculis coraceis dense tomentosis (vs. tenuibus herbaecis pilosis) atque bracteolis medialibus membranaceis lanceolatis (vs. induratis claviculatis) differt.

Plants rhizomatous, perennial, herbs, 45–80 cm; cataphylls narrowly ovate, apiculate, purple, densely velvety tomentose, the hairs 0.3–0.5 mm, innermost cataphyll 11–25 cm. **Leaves** all basal, 1 per shoot; leaf sheath not



Fig. 1. *Calathea gordonii* H. Kenn. Holotype scan provided by Mireya Correa (PMA), (Flores 3512, PMA).

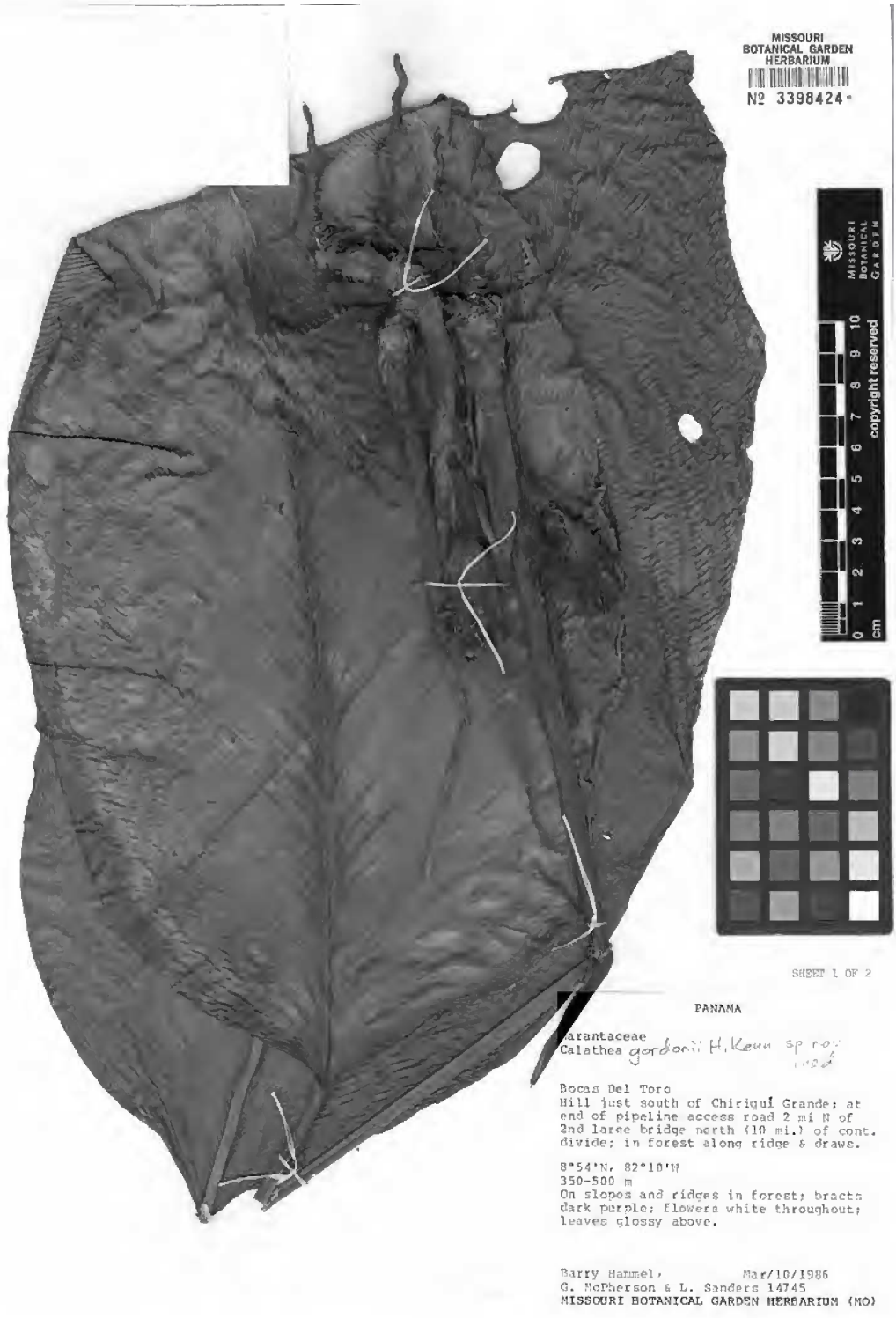


FIG. 2. *Calathea gordonii* H. Kenn. Paratype scan provided by Missouri Botanical Garden, (Hammel, McPherson & Sanders 14745, MO).

auriculate, green or tinged purple, paler, nearly cream-colored where covered by cataphylls, densely minutely appressed velvety tomentose, 6–15 cm; petiole green, densely minutely appressed velvety tomentose, (13–) 20.6–30.5 cm; pulvinus elliptic in cross-section, deep olive-green, densely minutely appressed velvety tomentose throughout, the hairs 0.1–0.3 mm, 1.5–3.6 cm, articulate, nearly 2× diameter of petiole; leaf blade elliptic, apex obtuse with acumens, base obtuse to rounded, shortly abruptly attenuate, 23.6–41 × 14.3–22.4 cm, (length:width ratios [1.24–]1.65–2.1:1) lateral veins 11–19 per 3 cm, cross veinlets 20–23 per 5 mm (veins measured at midpoint of each side of blade), vein angle from midrib 41°–46°; adaxial surface of blade glossy green, glabrous except acumens tomentose along margins and very tip, midrib concolorous, tomentose along center, the hairs 0.4–0.5 mm; abaxial surface pale grey-green, minutely velvety, appressed tomentose, the hairs 0.2–0.3 mm, midrib light yellowish tan, minutely velvety, appressed tomentose. **Inflorescence** basal, terminal, 1 per shoot, borne on a leafless or a leafy shoot, imbricate, ovoid to ellipsoid, 3–4.7 × (1–) 2–3 cm; peduncle green, densely matted, velvety tomentose, the hairs 0.3–0.6 mm, 5.5–13.4 cm. **Bracts** 4–7, spirally arranged, firm, transverse broadly ovate to broadly ovate in upper bracts, apex rounded with acumens in basal bracts, upper ones obtuse, 2–3.1 × ca. 3 cm, each bract subtending up to 7 flower pairs; abaxial surface of bracts purple to brownish purple, appressed tomentose, more densely so toward base, the hairs 0.6–1 mm, adaxial surface, glabrous; bicarinate prophyll membranous, elliptic, apex obtuse, glabrous, 2–2.2 × 1–1.3 cm, 0.6–0.7 cm from carina to carina; secondary bract membranous, broadly elliptic, apex rounded, glabrous, 2–2.2 × 1.4–1.6 cm; bracteoles 2 per flower pair, medial, membranous, narrowly obovate-elliptic, glabrous, 1.8–1.9 × 0.45–0.5 cm. **Sepals** narrowly elliptic, apex slightly cupped, obtuse to rounded, white, glabrous, 2.3–3.1 × 4.5–5 mm. **Corolla** white, tube glabrous, 3.5–4.3 mm; corolla lobes subequal, elliptic, obtuse, glabrous, ca. 1.4 mm. **Staminodes** 3, white; outer staminode obovate, retuse; callose staminode totally callose, subrectangular, apex rounded with an acumens; stamen with lateral petaloid appendage, anther cream-white, 1.5 mm; style and stigma cream-colored; ovary smooth, white, glabrous, 3–3.5 × 2 mm. **Capsule** unknown.

Additional specimens: **PANAMÁ. Bocas del Toro:** Hill just S of Chiriquí Grande, at end of pipeline access road 2 mi N of 2nd large bridge N (10 mi) of Cont. divide, in forest along ridge and draws, 350–500 m, 8°54'N, 82°10'W, 10 Mar 1986, B. Hammel, G. McPherson & L. Sanders 14745 (MO 3398424) (Fig. 2). **Colón:** Teck Cominco Petaquilla mining concession, forest on slope near coast, 8°58'23"N, 80°45'27"W, 9 Dec 2007, G. McPherson & H. van der Werff 20036 (MO 6252501); Distr. de Donoso, Zona Minera, Coastal road 17.7 km, bosque secundario tardío, 70 m, (UTM 0533818E 0987741N), 13 Oct 2013, R. Flores & R. Vergara 3419 (PMA); Distr. de Donoso, área de concesión, Minera Panamá, Coastal road, bosque secundario tardío dominado por palmas, 43 m, 8°56'0.29"N, 80°41'20.01"W (UTM 0534171E 0987505N), 24 Oct 2013, R. Flores 3440 (PMA).

Distribution and habitat.—*Calathea gordonii* is endemic to Panamá. It is known from the Atlantic coastal forest of both Bocas del Toro and Colón Provinces, from 40–500 m in wet primary or old secondary forest habitat.

DISCUSSION

Calathea gordonii belongs to *Calathea* sect. *Breviscapus* Benth. It is characterized by the single elliptic leaf per shoot; the single inflorescence per shoot, borne either on a separate, leafless shoot or on the leafy shoot; the densely appressed tomentose bracts and peduncle; the two membranous, medial, bracteoles and the white flowers. It differs from *C. basiflora* by the elliptic vs. obovate leaf, the firm, coriaceous, densely tomentose vs. thin, herbaceous, pilose bracts and the membranous, lanceolate vs. indurate, clavicate medial bracteoles. In *C. verecunda* and *C. rhizanthoides* inflorescences are also borne on separate leafless shoots. However, *C. gordonii* differs from *C. verecunda* by the broader leaf blades (14.3–22.4 vs. 4–8 cm) and the bracts with rounded to obtuse vs. acute to acuminate apices and from *C. rhizanthoides* by the broader angle of divergence of the lateral veins from the midrib (41°–46° vs. 28°–39°) and medial bracteoles membranous, lanceolate vs. indurate, clavicate. *Calathea cleistantha* Standl. also has inflorescences borne on separate shoots but has more numerous leaves per shoot, 2–4(–9) vs. 1 and corolla lobes dark purple vs. white.

Etymology.—The specific epithet, *gordonii*, is in honor of Gordon McPherson, Curator, Missouri Botanical Garden and collector of this new species, for his many excellent Panamanian collections—including several other previously undescribed Marantaceae—nearly a hundred of which have been the types of new species in various families in that diverse country.

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